

ABSTRACT

An electrostatic chuck provides reduced electric field effects about its peripheral edge. In one version, the chuck comprises a dielectric covering an electrode having a perimeter and a wire loop extending about the perimeter, the wire loop having a radially outwardly facing surface that is substantially rounded. Alternatively, the electrode may have a central planar portion comprising a top surface and a bottom surface, and a peripheral arcuate portion having a tip with a curvature length of at least about $\pi/8$ radians between a normal to the top surface of the central planar portion and a normal to the upper surface of the tip. The electrostatic chuck is used to hold a substrate in a process chamber of a substrate processing apparatus.